College Board
SpringBoard Algebra 2, Algebra II

Degree of Evidence regarding the Standards for Mathematical Practice:

Moderate Evidence

Summary of evidence:

1. **Make sense of problems and persevere in solving them**. There are many opportunities for students to make sense and meaning in real-world problems (e.g. p. 179). Each chapter reviewed containes many open-ended questions, and multiple approaches are frequently given. Students frequently use multiple representations (tables, graphs, equations, and situations) and make connections between them. Students are asked to reflect on their answers in context of the real-world situations. Understanding of the mathematical concept is at the forefront of the lessons, and making sense of concepts was fundamental in the chapters reviewed.
2. **Reason abstractly and quantitatively**. There are regular opportunities to apply mathematical ideas, not just the algorithm. Several examples and questions ask students to apply mathematics in context of the real-world (e.g. pp. 129, 133). Students are asked to take real-world situations and represent them in symbols throughout the chapters. Because of the frequency of real-world problems, units are central to the student's work. Rarely are students asked to consider reasonableness. Real-world situations are used to introduce topics in the chapters reviewed, and then students generalize the mathematics of interest. There are opportunities for students to practice with mathematical symbols without context as well as many opportunities for them to make sense of symbols in context.
3. **Construct viable arguments and critique the reasoning of others**. There are extensive opportunities for justification; most questions have an explain component (e.g. p. 98). There are no error analysis problems in the chapters reviewed. There are multiple opportunities for students to make and test conjectures (e.g. p. 125), and students are required to explain their reasoning on most questions. Frequently students are asked to communicate with others about their understanding of mathematics. Many of the communication opportunities are referenced in both the teacher guide and student book.
4. **Model with mathematics**. Students often create mathematical models for real-world situations. Frequently students are asked to make sense of their answer in the context of a real-world situation (e.g. p. 177). Models are used to help students understand difficult mathematical concepts (e.g. p. 151). Challenging mathematical ideas are also modeled by real-world situations (e.g. pp. 109-117). The chapters reviewed were centered on creating and using mathematical models.
5. **Use appropriate tools strategically.** Graphing calculators are often referenced (e.g. Chapter 2 throughout). However, in the chapters reviewed, there is no contrasting of different technologies. Concrete models and manipulatives are used. There is limited to no discussion/questioning about advantages and shortcomings of tools. Students are given the opportunity to explore some mathematics through technology (e.g. p. 103 #20). Overall, calculators are frequently referenced, but other technology is not.
6. **Attend to precision.** Students are given frequent opportunities to communicate about mathematics, and references to this communication are made in the teacher edition as well as the student edition. Examples use proper notation and are precise, and symbols and proper notation are used to develop ideas (e.g. p. 162). In the chapters reviewed, examples of precise communication, for example a sample student conversation in the teacher's edition, were not present. There is attention to precision in the examples, but no discussion for students to tackle.

7. **Look for and make use of structure**. Students use prior learning to learn new concepts. Students frequently use patterns to generalize and learn about mathematical structure (e.g. pp. 104-107), and they look for patterns in structure (e.g. pp. 183-185). The resource moves from specific examples to generalizations.
8. **Look for and express regularity in repeated reasoning.** Students use repetition to recognize patterns and make generalizations (e.g. pp. 127-128). There is some opportunity for students to use patterns to discover shortcuts for themselves, and patterns are used to help students see and make generalizations.